G. R. S. 59]

(H6)

GENERAL AND REVENUE SECRETARIAT.

1908-9
(Genl. Ins.)

File No. 99-08

Serial Nos. 1 – 22

Papers Filed.

Month May 1908

SUBJECT.

Application of Montagne Moore & Thomas James Haskett for exclusive privilege in respect of an invention re "Improvements in the process of and apparatus for directly reducing Iron Ore & treating it for the manufacture of wrought Iron & Steel."

PREVIOUS REFERENCES.	LATER REFERENCES.
	Jm. 267-12 881-6

Invention Reported in 8 D (1908-09

(

G.R.S. 11] 1908.

GENERAL AND REVENUE SECRETARIAT.

(Gen.)

NOTES.

File No. 99-08

FILE HEADING.

An application of Montnen Moore and Thomas James Haskett for Exclusive privilege in respect of "Improvements in the process of and apparatus for directly reducing iron ore and treating it for the Manufacture of wrought-iron and Steel.

From

Messrs Rempy & Son

No. Letter Dated 26/8/08 Received 28-8-08.

Diary No. 985 | Enclos. 2 | Spare Copies | Serial No. 1

BRIEF ABSTRACT OF LETTER.

Forwards a power of attorney from messrs Montnen moore and Thomas James Haskett for obtaining an exclusive privilege in respect of Improvements in the process of reducing iron ore and treating it for the manufacture of wrought iron & Steel.

NOTES AND ORDERS.

A Sum of Rs 101- is in respect of the application for leave to file a Specification and Re 1/- for Stamping the power of attorney have been Sent by mo. Messrs Rempy & Son obtained leave to file the Specification in India in respect of

NOTES—First sheet

GPB—30,000—3-4-07.

Serial No.	
5	To the Secy/Geological Deptt no G. 1570 of 5/9/08 - for the Engineer report the applen of referred above from Messrs Remfry & Son. letter dated 1.9.08 forwards a certified copy of the leave granted & the Govt. of India as required & Sl 2
6	
7	From officer in charge S.H.Dy no 64 dated 10/9/08 forwards a receipt for Rs 10/- Sent with Sl 4
8	From. The Supdt of Stamps no 869 dated 11/9/08 forwards the power of attorney sent with Sl 3 duly impressed with the stamps
9	From The State Geologist no 882 dated 14/9/08 with reference to Sl 5 states that the leave applied for may be granted

NOTE—Contn. sheet.

GPB—50,000—13.5.08

G. R. S. 12]
General and Revenue Secretariat.

G.R.S. File No. 99 of 1908

D3563

Serial No.	
	The address of the Inventor, Thomas James Haskett, as given in the letter under disposal is "No 2, Wonald Street, Brunswick in the ~~State~~ said State (Victoria, Australia)" while the address given in the original application for leave to file the specification as well as in the specification itself is "Woodmere, 9 Middlesex Road, Surrey Hills." It is not known which address is the late and correct one. Draft enquiring is put up. G. VS. 22/2/09 & Issue 24.2.09.
13	To messrs Remfry & Sons. no G 4924. of 26.2.09 With refce to Sl 12. points out certain differences in the address of Mr Thomas James Haskett as given in Sl. 12 & in the specification and enquires which of them is correct; forwards also the ~~original of the~~ order granting leave for ~~to~~ received with Sl. 12 for refce and return. As the information called for in the Sl 13 above has not yet been furnished

NOTE—Contn. sheet.

GPB—50,000—13-5 08

Serial No.

and as the fee received for filing the Specification is not yet remitted to the State Govt, it is necessary to issue a reminder and get the requisite information required for the speedy disposal of the case. Hence a draft letter is put up & submitted

(Sd/- Illegible 5-4-09)

To Issue

Sd/- 8/4/09

Reminder issued vide no 955 dated 15/5/09

14 To messrs Remfry & Son. d 23.4.09

With reference to the serial 13 states that the abovenamed address of Mr. Hesketh was "No 2 Donald Street, Brunswick" and his present address is "Woodsmere, Middlesex Road, Surry Hills" and requests the favour of correcting such address in the order.

11 The usual Offs:—

(1) forwarding the fee to the State Govt by

(2) Issuing a Notification re filing the Specn

(3) forwarding the above to the Applicants

(4) forwarding a copy each of the Specification to the Chief Engineer, State Geologist & Superintendent Technological Museum are submitted

P.T.O.

NOTE—Contn. sheet.

GPB—50,000—18-5 08

G. R. S. 12]
General and Revenue Secretariat.

(7)

Gen File No. EE of 1908-09

Serial No.	
	Off-draft also Receipted
Flag C 4544	Certificate both in Draft & in fair are also submitted for appl & signature resply
	C/ this 26.4.09
	12 Issue
	9/4/09
15	To the Officer in charge S.H. Dy No. C 6189 of 30.4.09. Forwards for credit into the Dy. the sum of Rs 30 received from Messrs Remfry & Sun with Sl. 12.
16.	To the Compiler Mysore Gazette No C 6190 of 30.4.09. Notifies the filing of a specification of the invention
17	To Messrs Remfry & Sun. No C 6191 of 30.4.09 Forwards a copy of Sl 16. and returns the order granting leave with the certificate at bottom duly filled in and signed.
18	To the Chief Engr., State Geologist & Superr Govt museum. No C 6192-4 of 30.4.09. Forwards for record a copy of the Specification
19.	Fr. the Officer in charge of State Hungund Dy. No 368 dated the 1st May 09 Acknowledges the receipt of Rs 30 sent with Sl 15 above

NOTE—Contn. sheet.

GPB—50,000—13-5-08

Dy 29 Sept 1908

S.V D. 985

G.n 99-08-1

To

THE SECRETARY TO THE GOVERNMENT OF H IS HIGHNESS
THE MAHARAJA OF MYS ORE, Gen: & Rev: Depts.

From

REMFRY & SON,
Solicitors and Patent Agents,
8 Hastings Street, Calcutta.
Dated Calcutta, 25th Augt 1908.

Sir,

We have the honour to forward herewith an Application of MONTAGUE MOORE, Mining Agent, of No 314 Collins Street, Melbourne, in the State of Victoria, and Commonwealth of Australia, and THOMAS JAMES HESKETT, Engineer of "Woodsmere", of Middlesex Road, Surrey Hills, in the said State, for leave to file a Specification under Part I of the Myso e Inventions and Designs Regulation, 1894, for "IMPROVEMENTS IN THE PROCESS OF AND APPARATUS FOR DIRECTLY REDUCING IRON ORE AN SUBSEQUENTLY TREATING SAME FOR THE MANUFACTURE OF WROUGHT IR N AND STEEL" and solicit the favour of your submitting the same for the orders of His Highness the Dewan of Mysore.

We have also the honour to forwa the Power of Attorney under which we are acting and shall be obliged by your stamping same ₹1/-.

A corresponding Application was filed in India on the 10th April 1908, Register No. 177 of 1908, and leave to file Specifications was granted on 20th May 1908.

A Post Office Order for ₹11/- is sent today.

We have the honour to be,
Sir,
Your very obedient servants,

REMFRY & SON.
per

[The Remitter may write here any communication to the Payee, and he is recommended to add his name and address for the information of the Payee.]

Amount of Order Rs. 22/- As.

Name of remitter Remfry & Son

Applications & Powers re Pollen, and Moore and Heskett

3

G.R S. 26]

4 drafts

Gen. File No. 99-08

Serial No. 2

Diary No. of letter replied to _____

No. G. 1567

General and Revenue Secretariat

( )

, *the* 190

To Messrs Rempy Vson
Solicitors & Patent Agents
8 Hastings Street
Calcutta

Date of issue 5. 9. 08

Signed by W. S. P. Rajagopalachar

Gentlemen.

With reference to your letter dated 25th ultimo forwarding an application of Monsieur Monsieur Thomas James Heskett for leave to file a Specification in respect of "Improvements in the process of and apparatus for directly reducing iron ore and subsequently treating same for the manufacture of wrought iron and Steel" I am directed to request you to submit for the information of Government a certified copy of

1 over.

SUBJECT.

No leave granted in British India to file the Specification in question.

BD

In Secy to Govt.

VS.

24/2/30

List of enclosures

Copied by

Examined by

GPB—3,000—1-3-07

Money & Cover sent 28/8/08

Well
20/9/08

To 98 V

4

G.R.S.-29A] 1908/19

From

Secy. to the Govt. of His Highness
the Maharaja of Mysore,
Genl. and Rev. Dept.

To

The Superintendent
of Stamps

Dated

Despatched 5. 9. 08

Received

General No. G. 1568

Gen No. 99-08-3

Enclosure No. 1 of 1 Re/-

Has the honor to
forward herewith R 1/-
and to request that the
accompanying power
of Attorney in the matter
of Mr Montren Moore
and Mr Thomas James
Heskett may kindly be
impressed with the
Mysore Stamp.

Bo

Dy Secy to Govt.
V.S.

Sk 2/38

MGCFB—20,000—16-2-05

Money & cover rec'd
20/9/08

G.R.S. 29A

190

From

Secy. to the Govt. of His Highness the Maharaja of Mysore, Genl. and Rev. Dept.

To The Officer in Charge of the State Museum Nearing.

Dated

Despatched 5th Sept. 08 Bangalore,

Received

General No. G. 1569

Genl. No. 99-08-4

Enclosure ~~No.~~ Rs. 10/-

Have the honor to forward herewith Rs 10/- being the application fee received from Messrs Rempty & Son for leave to file a Specification under the Mysore Inventions and Designs Regulation 1894 ~~in the Matter~~ on behalf of Mr Montagu Moore and Mr Thomas James Heskett and to request an acknowledgment

I have the honor to be
Sir
Your most obedient
humble servant
for Secy to Govt.

Secy
Govt.

MGCPB—20(CC)—16-2-05

4 dupl

G.R.S. 294]

190

From

Secy. to the Govt. of His Highness
the Maharaja of Mysore,
Genl. and Rev. Dept.

To

The Geological Secy.

Dated

Despatched 5. 9. 08

Received

General No. G. 1570

Gen No. ~~275~~ 99-08-5

Enclosure No. 1 appln.

Has the honor to forward
for favour of opinion and report
the accompanying
application of Mr Montague
Moore and Mr Thomas
James Heskett for leave
to file a Specification
in respect of an Improvement
in the process of and
apparatus for directly
reducing iron ore and
subsequently heating same
for the manufacture of
wrought iron and steel"

an invention for

BO.

80 25/8.

Jr Secy to Govt.

MGCIB—2500—16-2-05

V 5214/9

No. 1855-P.

GOVERNMENT OF INDIA.

Department of Commerce and Industry.

Register No. 177 of 1908.

Calcutta, the 20th May 1908.

WHEREAS an application, dated the 2nd March and received on the 10th April 1908, has been submitted under section 5 of the Inventions and Designs Act, 1888, by Montague Moore, mining agent, of No. 314 Collins street, Melbourne, in the state of Victoria, and commonwealth of Australia, and Thomas James Heskett, engineer, of No. 2 Donald street, Brunswick, in the said State,

(hereinafter referred to as "the applicant") for leave to file a specification of an invention for improvements in the process of and apparatus for directly reducing iron ore and subsequently treating same for the manufacture of wrought iron and steel;

And whereas the applicant has duly complied with all the requirements of section 5 of the said Act;

The Governor General in Council is pleased, under section 6 of the said Act, to authorize the applicant to file a specification of the said invention in accordance with the provisions of the said Act.

ORDERED, that the applicant be, and he is hereby, informed accordingly.

By order of the Governor General in Council,

Sdy- H. G. Graves.

Assistant Secretary to the Government of India.

No. 2922-P.

Dated the 4th August 1908.

Certified that the fees prescribed in the fourth schedule to the Inventions and Designs Act, 1888, in respect of the application for leave to file the said specification and of the filing thereof have been paid by the applicant, and that the specification hereinbefore described has been duly filed in accordance with the provisions of section 8* of the said Act on this the twenty-third day of July 1908.

Sdy- H. G. Graves.

Assistant Secretary to the Government of India.

(True Copy)

H. Chowley

Superintendent,
Patents Office. 27/8/08

Dept. of C. & I. Patents Regr. No. 24.

See reverse.

Section 8 of the Inventions and Designs Act, 1888.

8. (*1*) If within six months from the date of an order under section 6, sub-section (*1*), or within such further time, not exceeding three months, as the Governor General in Council, in his discretion, may, on cause shown to his satisfaction and on payment of the fee prescribed in that behalf in the fourth schedule, see fit to allow, the applicant causes a specification of his invention to be filed in manner by this Part required, and the fee prescribed in the fourth schedule in respect of the filing of the specification to be paid, the applicant shall, subject to the other provisions of this Part, be entitled to the exclusive privilege of making, selling and using the invention in British India, and of authorising others so to do, for a term of fourteen years from the date of the filing of the specification.

(*2*) But an exclusive privilege in respect of an invention of a new manufacture shall, notwithstanding anything in sub-section (1), cease if the inventor fails to pay, within the time limited in that behalf by the fourth schedule, any fee prescribed in that schedule in respect of the continuance of the privilege.

(*3*) If, nevertheless, in any case, by accident, mistake or inadvertence, an inventor fails to pay any such fee within the time so limited, he may apply to the Governor General in Council for an enlargement of the time for making the payment.

(*4*) Thereupon the Governor General in Council may enlarge the time accordingly, on payment of the fee prescribed in that behalf in the fourth schedule and subject to the following conditions, namely :—

(*a*) the time for making a payment shall not in any case be enlarged for more than three months ; and

(*b*) if any suit is instituted in respect of an infringement of the exclusive privilege committed after a failure to make a payment within the time limited for the making thereof and before the enlargement of that time, the Court disposing of the suit may, if it thinks fit, refuse to award or give any damages in respect of the infringement.

G. I. C. P. O.—No. 1594 C. & I.—24-12-07.

No. 64

D 1214 Rs 101—

Received from The Secretary to the Government of
His Highness the Maharaja of Mysore General & Revenue Departments
the sum of Rupees Ten only on account this day to
IX Miscellaneous Fees his ms G 1569 8/6/91 08

H. The Maharaja's State Huzur Treasury,
Bangalore, 10 — 9 — 1908

By Order,

Exd.

Hd. ~~Accott.~~ ~~Bakshi~~ Treasury

Treasury Officer, State Huzur Treasury.

Cby. D1115 12

Cm 99-08-8

Mysore Stamps' Supdt's Office
Bangalore 4th Sept 1908

From

K. Krishna Iyer Esq
Supdt. of Stamps in Mysore

To

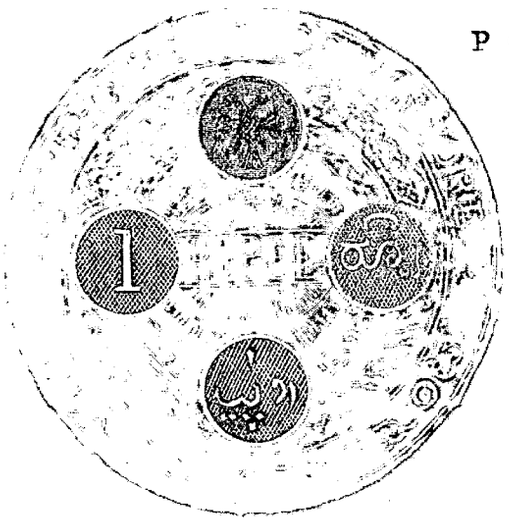
K.S. Shamasekhara Iyengar Esq
Secy to the Govt of H.H. the Maharaja
Maharaja of Mysore.

No 69
Encls. Two Stamped powers of attorney

Sir,

I have the honor to return herewith duly stamped the two powers of attorney forwarded with your docket Nos C. 1568/Cm 99-08-3 and C. 1586/Cm 97-08 dated the 5th & 7th Sept. 1908 and to request the favour of an acknowledgment.

I have &c.
Sd. K. Krishna Iyer
Supdt of Stamps
in Mysore



POWER OF ATTORNEY.

IN THE MATTER of the Inventions and Designs Regulation, 1894, of the Government of Mysore and IN THE MATTER of MONTAGUE MOORE, Mining Agent, of No. 314 Collins Street, Melbourne, in the State of Victoria, and Commonwealth of Australia, and THOMAS JAMES HESKETT, Engineer, of "Woodsmere", Middlesex Road, Surrey Hills, in the said State, Inventors.

We, the above-named Montague Moore and Thomas James Heskett do hereby retain, constitute and appoint HENRY HAMILTON REMFRY and RUPERT REMFRY, both of Hastings Street in the town of Calcutta, British India, Solicitors as our Agents and Attorneys to apply for and obtain from the Government of Mysore and keep in force an Exclusive Privilege or Letters Patent for "Improvements in the Process of and Apparatus for directly reducing iron ore and subsequently treating same for the manufacture of wrought iron and steel", and authorise them or either of them to sign our names to such papers and writings and do such acts regarding the same, including the appointment of a substitute or substitutes, as may be necessary or expedient.

Dated this 30th day of July 1908.

SIGNED, SEALED and DELIVERED) Montague Moore
at Melbourne, in the presence) Thomas James Heskett
of :-

Walter S. Baxter. Melbourne. Patent Attorney
Walter S. Baxter Melbourne. Clerk

S.V

Gm 99-08-9

M. G. D. 13]

MYSORE GEOLOGICAL DEPARTMENT,

DATED BANGALORE, 14th Sept. 1908

D 1254

No. 882.
Encl. 1.

From

DR. W. F. SMEETH, M.A., D.SC., A.R.S.M., &c.,
State Geologist in Mysore.

To

K. S. Chandrashekhara Iyer, Esq.,B.A.,B.L.,
Secretary to the Govt. of H.H. The Maharaja
of Mysore, Bangalore.

SIR,

With reference to your docket No. G.1570/G.M.99-08-5, dated 5th September 1908, I have the honour to state that I have examined the application forwarded therewith and find that the invention has been clearly described and that it presents some points of novelty in the reduction of iron ores by means of gaseous fuel and in the arrangement of the apparatus and I am of opinion that the leave applied for may be granted.

2. The enclosure to your docket referred to above is returned herewith.

I have the honour to be,
Sir,
Your most obedient servant,

W. F. Smeeth

State Geologist in Mysore.

GPB—500—10-10-06

D. 1010

A P P L I C A T I O N.

TO THE DEWAN OF MYSORE.

THE APPLICATION of MONTAGUE MOORE, Mining Agent, of No. 314 Collins Street, Melbourne, in the State of Victoria, and Commonwealth of Australia, and THOMAS JAMES HESKETT, Engineer, of "Woodsmere", of Middlesex Road, Surrey Hills, in the said State, for leave to file a Specification under Part 1 of the Mysore Inventions and Designs Regulation, 1894.

1. The Applicants are in possession of an Invention for "Improvements in the Process of and Apparatus for directly reducing iron ore and subsequently treating same for the manufacture of wrought iron and steel", they are the Inventors thereof, and to the best of their information and belief, the Invention is new within the meaning of Part 1 of the Mysore Inventions and Designs Regulation, 1894, and no circumstance exists which, if the Applicants are authorised to file a Specification and file it in accordance with that Part, will disentitle them to an Exclusive Privilege thereunder in respect of the Invention.

The Applicants have applied for a Patent in the United Kingdom in respect of this Invention, No. 26131, dated the 26th. day of November 1907. See Illustrated Official Journal (Patents) No. 986, page 1836, Complete Specification filed the 21st. day of April 1908. See Journal No. 1007, page 642, and accepted on the 18th. day of June 1908. See Journal No. 1015, page 961.

2. The following is a description of the Invention

This invention relates to improvements on what is known as the Moore-Heskett process and apparatus for treating ferruginous ore for the manufacture of iron and steel therefrom. According to the said process the ore is first ground or crushed to a fine state of division, the silica earthy or other deleterious matter being concentrated and separated therefrom. The ore is then subjected whilst passing through a chamber to heat, preferably produced by the admixture of air with waste carbonic oxide or hydro-carbon gas issuing from another chamber, and then to the progressive reducing action of such gas or gases alone whilst passing through said latter chamber, and is then passed without coming in contact with an oxidizing atmosphere into a Siemens or other gas furnace where it is fused and "balled up" as wrought iron or converted into steel. The apparatus used in carrying out the said process consists essentially either of a vertical tower, which practically constitutes two chambers, a revolving cylinder and a vertical tower, or two revolving cylinders, and a Siemens gas furnace in communication with the bottom of the tower or the second and lowermost of the two revolving cylinders. The gases used for both heating and reducing pass either upwards in the opposite direction to the ore being treated, or the gas for heating passes upwards and the reducing gas downwards. In the latter case the reduced ore is delivered to the gas furnace and beneath a bath of molten metal therein, while enveloped or protected from oxidation by the reducing gas which is fed in with it, but we find that said reducing gas by the time it reaches the entrance to the gas furnace has become so deteriorated

by the admixture therewith of oxygen given off from the ore that the best results are not obtained.

Now according to our present invention the reducing gas enters the reducing chamber at the bottom and is so controlled that a portion of it passes upwards and through the reducing chamber, reducing the ore therein to metal, and is subsequently in another chamber, consumed by the admixture of air therewith, to supply the necessary heat for heating fresh supplies of ore. The remaining portion passes with the reduced ore from the reducing chamber to the gas furnace and protects said ore from oxidation until it is delivered beneath a bath of slag in said furnace where it is "balled up" into wrought iron, and subsequently taken out through the doors to a squeezer or hammer and treated in the ordinary way for the production of wrought iron bars &c., The waste gases from the gas furnace pass upwards to an air regenerator to heat the air passing therethrought to the gas furnace.

To make and maintain the bath of slag in the gas furnace and to melt any silicious or earthy materials adhering to the ore, fluxes may be supplied through the door of the gas furnace, or may be delivered with the ore from the reducing chamber .

When steel is to be manufactured scrap steel or wrought iron is melted with solid fuel in a cupola furnace, by which means it becomes highly carburised, and is fed into the gas furnace into which the reduced iron falls. A high temperature is maintained in the furnace, and consequently the reduced iron is speedily melted, and when the bath is full of metal in a state of fluidity the whole or part of the metal is tapped out

or run into a refining furnace. The bath of metal in the refining furnace contains a minimum of slag and alloyed carbon and in said refining furnace can be quickly refined and treated in the ordinary way to obtain a metal of exact quality and without interfering with the continuous melting of the reduced iron in the gas furnace. Any required alloys are added to the metal and the bath may be of an acid or basic character to suit the metal under treatment. When ready, the metal is poured into ingot moulds in the usual way.

In carrying out the process above described we provide an inlet for the reducing gas at the bottom of the reducing chamber, an air inlet at the bottom of the heating chamber, and a damper at the top of the latter chamber. By means of said damper the volume of gas entering near the bottom of said reducing chamber can be so controlled as that a portion thereof will pass through said reducing chamber while the remainder will pass with the reduced metal to the gas furnace. In cases where a tower is used for heating and reducing the iron ore, or in conjunction with a revolving cylinder for the same purposes, we prefer to construct said tower in the same way as an ordinary Siemens regenerator whereby the ore in its passage through or down it, is compelled to follow a circuitous course thus keeping it under treatment for a longer period. Where two revolving cylinders or one cylinder in conjunction with a tower is used, we may, if desired, insert in said cylinder or cylinders a series of small cylinders through which the ore is passed, thus effecting a more intimate contact between the ore and gases.

In communication with the gas furnace into which the reduced metallic iron is continuously fed are one or more cupola melting furnaces, in which scrap steel or wrought iron can be melted with solid fuel and poured into the bath of the gas furnace when required. A launder leads from said gas furnace to another gas furnace constituting a refining furnace and through this launder the metal runs into said refining furnace. If preferred, the metal can be tapped into the refining furnace as required. As has been before explained, the cupola furnaces and also the refining furnace are not used when making wrought iron, they only being necessary in the manufacture of steel, but if it is required to make a more or less steely quality of wrought iron, the highly carburised metal in the cupola furnace may be run into the gas melting furnace. A lower temperature in that case is maintained in the furnace so that the reduced iron does notmelt but is "balled up" in the usual way for wrought iron, in a bath of carburized iron and slag.

In cases where ore rich in iron is procurable and concentration is therefore not necessary we treat it in lump form thus avoiding the expense of crushing to a fine state of division. When lump ore is treated the heating and reducing chambers are not provided with means to delay the passage of the ore as in the case of ore in a fine state of division. The heating and reducing chambers are simply filled with the ore to be treated, and the bottom of the reducing chamber is slightly altered in construction so that the ore remains at rest, say upon a shelf, until it is either drawn forward by hand into the bath or pushed forward

by mechanical means.

Referring to the drawings hereto annexed Figure 1 is a plan in section of our complete apparatus while Figure 2 is a sectional elevation on line a b Figure 1.

A A A A are the heating and reducing chambers which as shewn consist of vertical towers, but as previously explained, said heating and reducing chambers may each consist of a vertical tower and a revolving cylinder set at an angle to and in communication with said tower, or two revolving cylinders in communication with each other, the one constituting the reducing chamber being at a lower elevation than the other or heating chamber. The upper portion A^1 of each of the towers A constitutes the heating chamber and the lower portion A^2 the reducing chamber. The interior of all these vertical towers may be constructed as shewn in Figure 2 in the same way as an ordinary Siemens regenerator and when so constructed are intended for treating ore in a fine state of division. By so constructing said towers the ore under treatment is compelled to follow a circuitous course and its passage through the towers is considerably delayed so as to give the gases sufficient time to act on the ore. If the towers are intended for treating lump ore the internal construction constituting a series of passages is dispensed with. B is a gas producer and B^1 a feeding door thereto. C is a flue in communication with said gas producer B, and from which flue C the gas flows through pipes D lined with fire resisting material to the bottom of the reducing chamber A^2 of each tower A. A^3 is a passage through which the reduced ore passes to the gas furnace E. F is an air inlet to the heating chamber A^1 of the tower A. G is a flue for the escape of

waste gas from the top of the heating chamber A^1, and G^1 is a damper in said flue G by operating which the gas supplied to the bottom of the reducing chamber A^2 may be so manipulated as that portion of it passes upward through the reducing and heating chambers A^1 and A^2, whilst the remainder passes downward with the reduced ore from the reducing chamber A^2 through passage A^3 leading from the bottom of each reducing chamber to the gas furnace E. H is a hopper through which the ore to be treated is fed to the top of the heating chamber A^1. E^1 is a metal bath in the gas furnace E. E^2 is a slag hole and E^4 is a metal tapping hole in said furnace E, through which a portion of the metal can be tapped off as it accumulates. E^3 is another tapping hole through which the remainder of the metal can be tapped off when desired to empty the furnace. I is an air regenerator. I^1 are cold air inlets to said air regenerator. I^2 are waste heat flues leading from the gas furnace E to the air regenerator I. I^3 are hot air passages leading from the air regenerator I to the gas furnace E. I^4 is a waste heat flue at the top of the regenerator I. J are cupola furnaces and J^1 are launders through which the fluid highly carburized metal passes from said cupola furnaces into the bath in the gas furnace E. E^5 is the flux-charging door to the furnace E, and E^6 are the working doors of said furnace. K is a refining furnace and K^1 a launder leading from metal tapping holes E^3 and E^4 to said refining furnace K. K^2 is a metal tapping hole in said refining furnace and K^3 a feeding door for fuel thereto.

By our apparatus a continuous melting and refining of the ore can be carried on.

Having now particularly described and ascertained the nature of our said Invention and in what manner the same is to be performed, we declare that what we claim is:-

1. In a process as described causing the reducing gas to enter the reducing chambers at the bottom thereof and so controlling it, that a portion passes upwards through said reducing chambers, and also the heating chambers above, while the remainder passes with the reduced ore to the gas furnace and protects it from oxidation until delivered beneath the bath in said gas furnace.

2. In the manufacture of steel or a steely quality of wrought iron melting scrap steel or wrought iron with solid fuel in cupola furnaces and supplying same therefrom to the bath in the gas furnace as and for the purpose described.

3. The combination with heating and reducing chambers A^1 and A^2 gas producer B, gas furnace E, and air regenerator I of the cupola furnaces J as and for the purpose described.

4. The combination with the heating and reducing chambers A^1 and A^2, gas producer B, gas furnace E, and air regenerator I of the cupola furnaces J and refining furnace K as and for the purpose described.

5. The combination with the heating and reducing chambers A^1 and A^2 of the flue C in communication with the gas producer B, pipes D leading from said flue C to the bottom of the reducing chambers A^2, air inlet F, and damper G^1 as and for the purpose described.

3. The Applicants therefore apply for leave to file a Specification of the Invention pursuant to Part 1 of the Mysore Inventions and Designs Regulation, 1894.

Montague Moore

Thomas James Hackett

We the Applicants above-named, do declare that the facts stated in this Application are true to our knowledge, except as to matters stated on information and belief and as to those matters we believe them to be true.

Dated this 30th day of July 1908.

Montague Moore

Thomas James Hackett

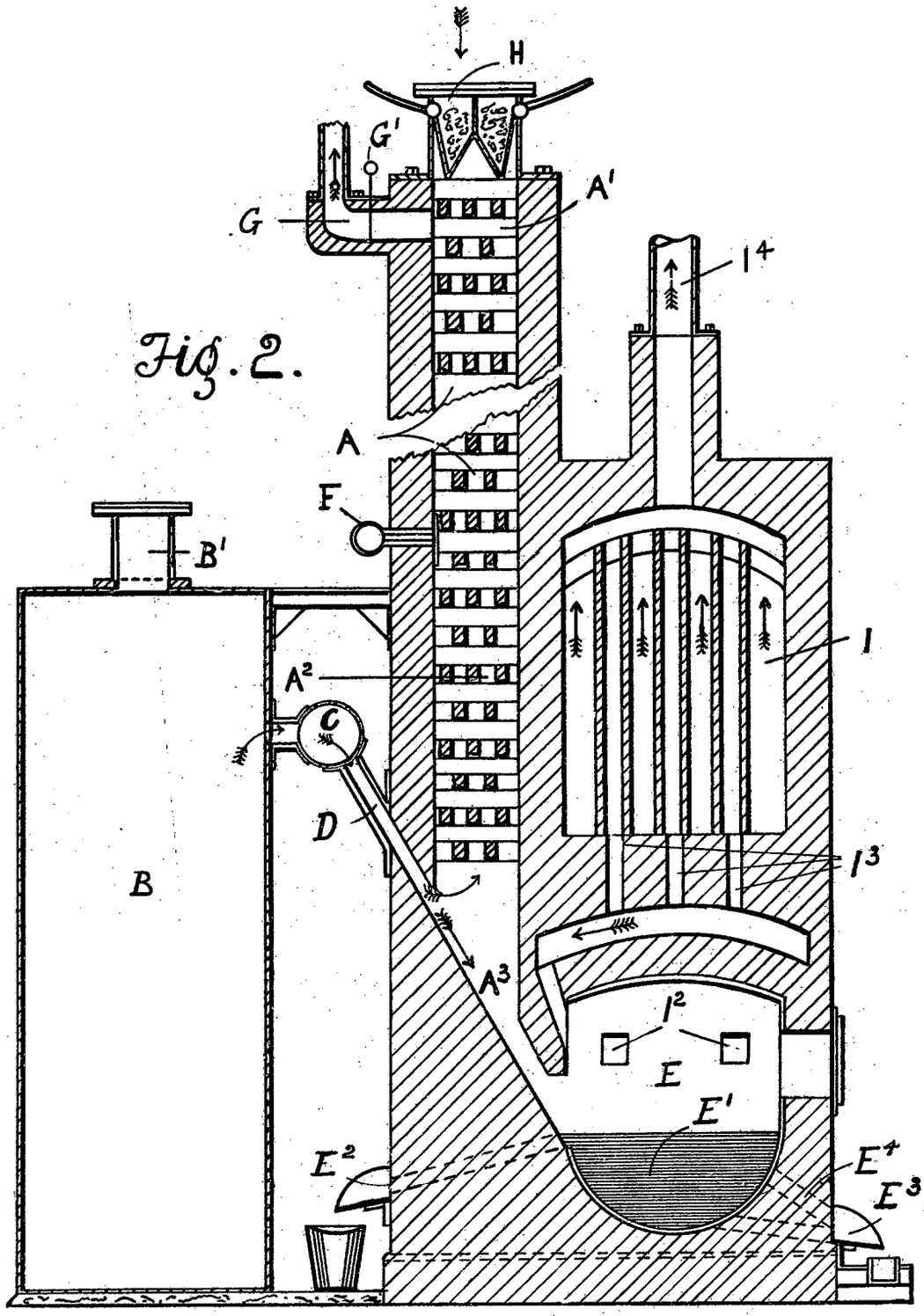
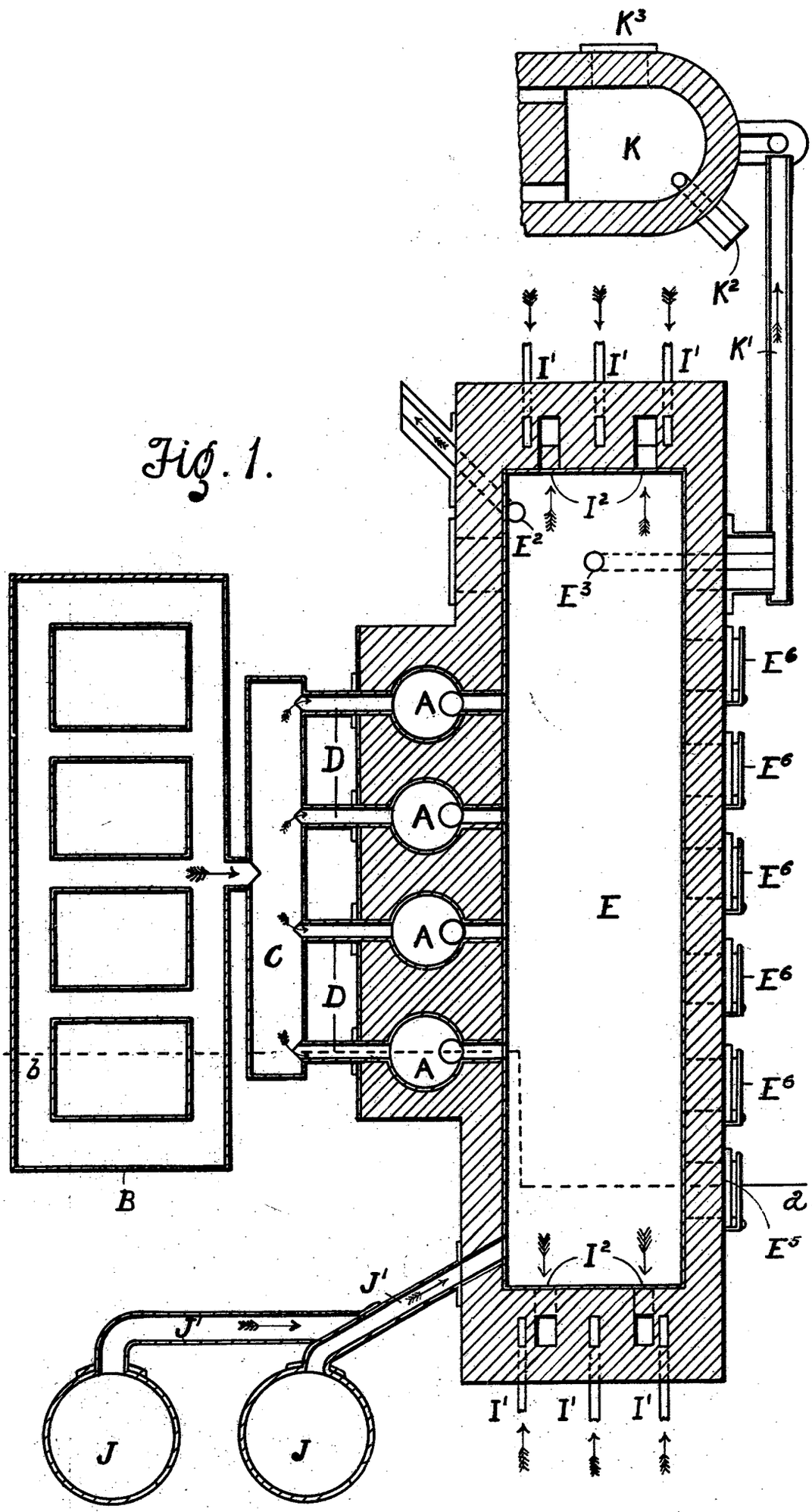


Fig. 2.

Fig. 1.



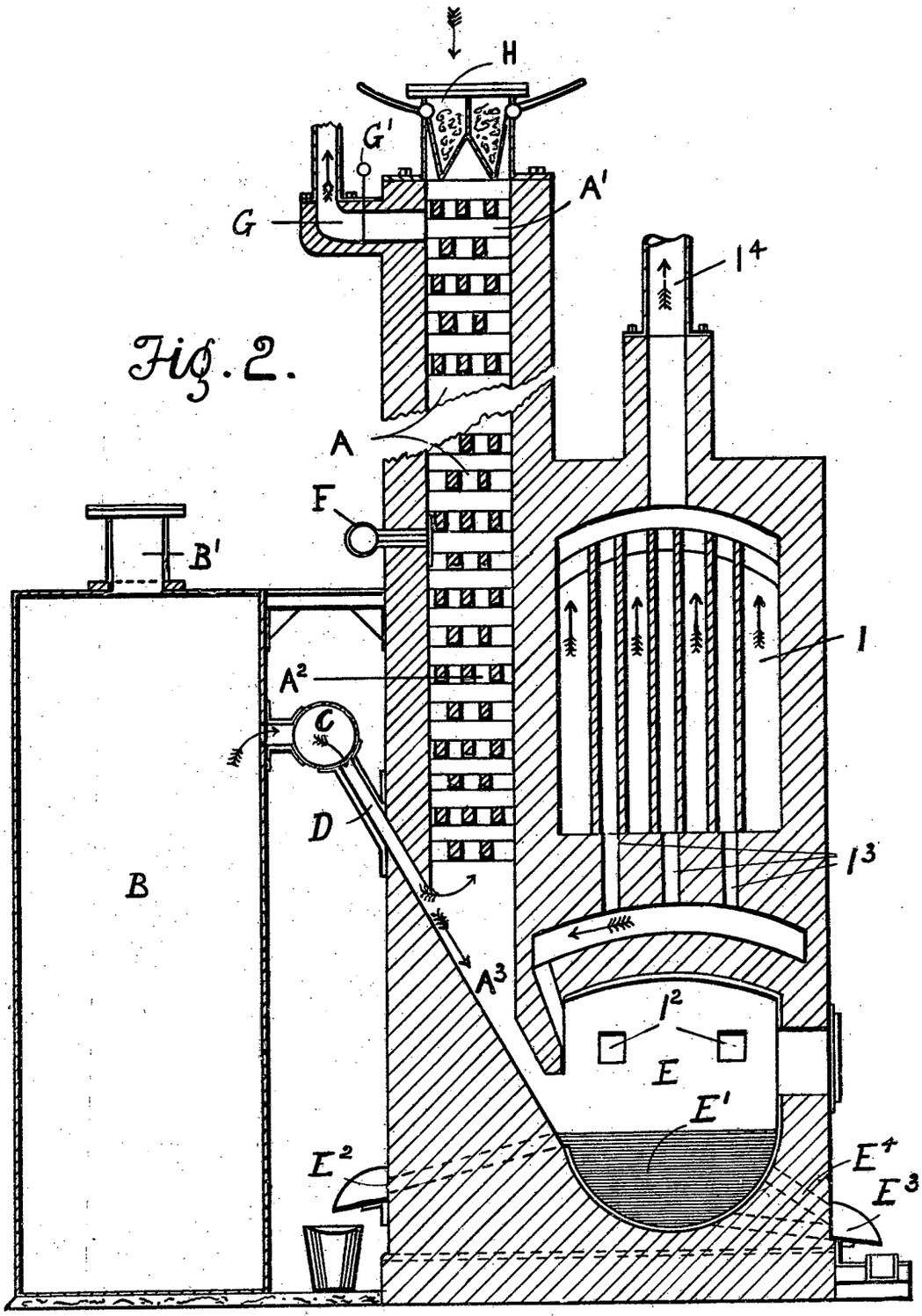
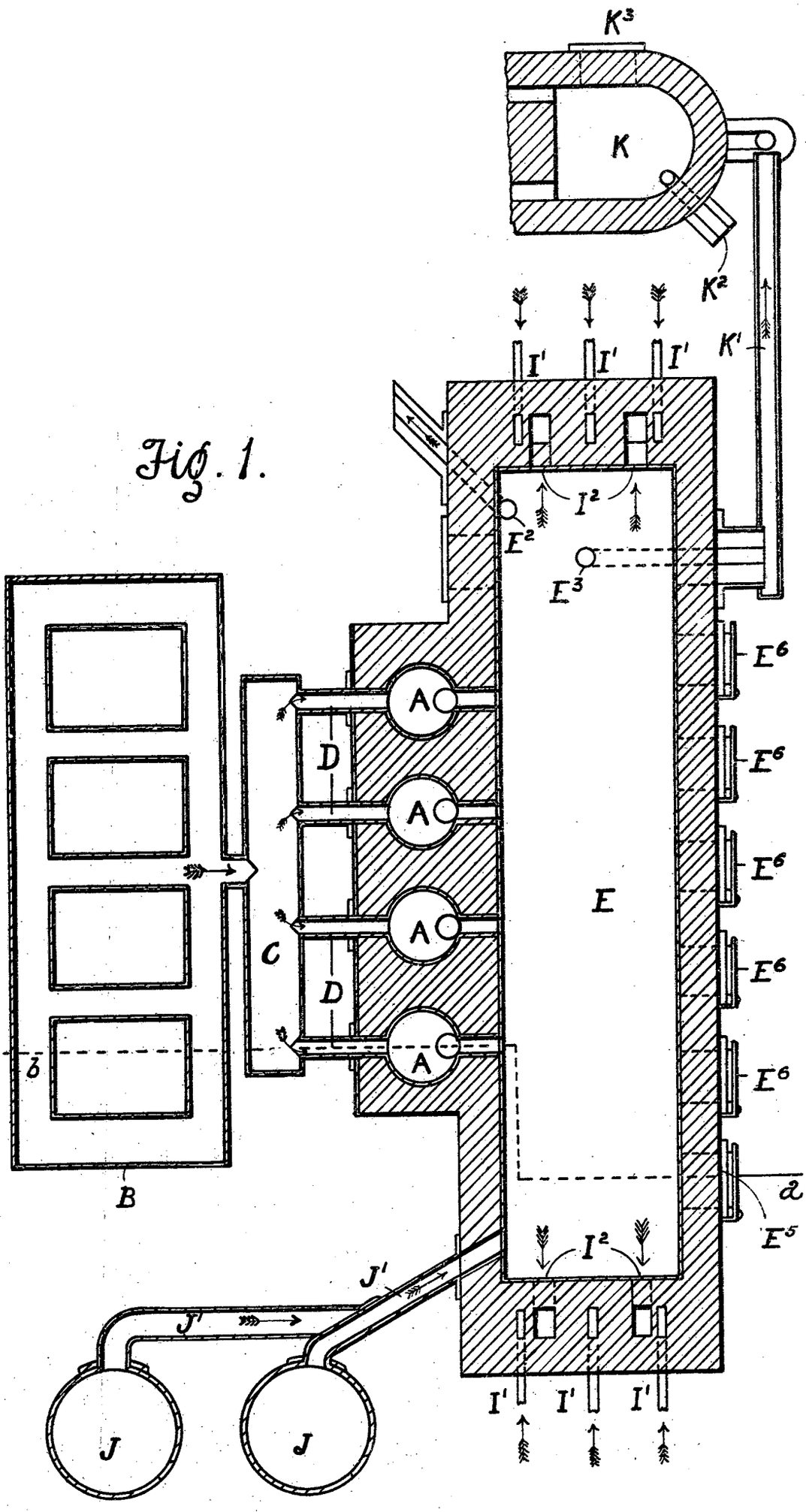


Fig. 2.

Fig. 1.



28

Gen. M-C. 2221 & 30-9-08

Gen. 99-08-10

GOVERNMENT OF MYSORE

General Department

Register No. 8 of 1908.

Bangalore, the 18th Sept. 1908.

WHEREAS an application, dated the 25th Aug. 1908 and received on the 28th Aug' 08, has been submitted under Section 5 of the Mysore Inventions and Designs Regulation, 1894, by Montagu Moore, Mining Agent of No 314 Collins Street. Melbourne in the State of Victoria and Commonwealth of Australia and Thomas James Heskett, ~~Engineer~~ this resident Engineer of 102, Donald Street, Brunswick, in the said State by trade a producer, Middlesex Road, Surrey Hills, (hereinafter referred to as "the applicant") for leave to file a specification of an invention for improvements in the process of and apparatus for directly reducing iron ore and subsequently heating same for the manufacture of wrought iron and Steel.

And whereas the applicant has duly complied with all the requirements of Section 5 of the said Regulation;

The Government of Mysore are pleased, under Section 6 of the said Regulation, to authorize the applicant to file a specification of the said invention in accordance with the provisions of the said Regulation.

ORDERED, that the applicant be, and he is hereby, informed accordingly.

By Order of the Government of Mysore,

Secretary to the Govt. of Mysore,
Gen. and Rev. Depts.

U.S.

1898

Certified that the fees prescribed in the fourth schedule to the Mysore Inventions and Designs Regulation, 1894, in respect of the application for leave to file the said specification and of the filing thereof have been paid by the applicant, and that the specification hereinbefore described has been duly filed in accordance with the provisions of Section 8 of the said Regulation on this the nineteenth day of February 1909.

Secretary to the Govt. of Mysore,
Gen. and Rev. Depts.

(*Section* 8 *of the Inventions and Designs Regulation*, 1894.)

8. (1) If within six months from the date of an order under Section 6, Sub-Section (1), or within such further time, not exceeding three months, as the Government of Mysore, in its discretion, may, on cause shown to its satisfaction and on payment of the fee prescribed in that behalf in the fourth schedule, see fit to allow, the applicant causes a specification of his invention to be filed in manner by this Part required, and the fee prescribed in the fourth schedule in respect of the filing of the specification to be paid, the applicant shall, subject to the other provisions of this Part, be entitled to the exclusive privilege of making, selling and using the invention in the Territories of Mysore, and of authorizing others so to do, for a term of fourteen years from the date of the filing of the specification.

(2) But an exclusive privilege in respect of an invention of a new manufacture shall, notwithstanding anything in Sub-Section (1), cease, if the inventor fails to pay, within the time limited in that behalf by the fourth schedule, any fee prescribed in that schedule in respect of the continuance of the privilege

(3) If, nevertheless, in any case, by accident, mistake, or inadvertence, an inventor fails to pay any such fee within the time so limited, he may apply to the Government of Mysore for an enlargement of the time for making the payment.

(4) Thereupon the Government of Mysore may enlarge the time accordingly, on payment of the fee prescribed in that behalf in the fourth schedule, and subject to the following conditions, namely :—

(*a*) the time for making a payment shall not in any case be enlarged for more than three months ; and

(*b*) if any suit is instituted in respect of an infringement of the exclusive privilege committed after a failure to make a payment within the time limited for the making thereof and before the enlargement of that time, the Court disposing of the suit may, if it thinks fit, refuse to award or give any damages in respect of the infringement.

MGCPB—200—11-12-01.

G.R.S. 26]

Em

File No. 99

Serial No. 11

Diary No. of letter replied to 1254

No. G 2222

Enc. 1

General and Revenue Secretariat

( )

, the 190

To Messrs Remfry & Son

Solicitors and Patent

Agents Calcutta

Date of issue 30.9.08

Signed by Mr SP Rajagopalachar

Gentlemen.

With reference to your letter dated 1st instant. I have the honor to forward herewith G.O. No. G. 2221 dated 30.9.08 bearing Register no 8 of 1908 granting leave to Messrs Montagu Moore and Thomas James Hesketh to file under the Indian Inventions and Designs Regulation 1894 a specification of an invention for "Improvements in the Process of and apparatus

over.

SUBJECT.

for directly reducing iron
ore and subsequently treating
same for the manufacture
of wrought iron and steel"

I have &c.

Sept 18th 88.

For Secy Govt
U.S.

List of enclosures

Copied by S.R

Examined by

GPB—3,000—1-3-07

C.N. 8549 Pat. N3/1912

9 3563 Fee Rs 30 recd on 19.2.09. 32

G.M. 99-08-12

From

REMFRY & SON,

Solicitors & Patent Agents,

Calcutta

To

THE SECRETARY TO THE GOVERNMENT OF HIS HIGHNESS

THE MAHARAJA OF MYSORE, Genl & Rev. Dept.

Bangalore, Mysore.

Dated Calcutta, 15th Feby 09.

Sir,

Pursuant to the Leave granted on Application Register No 8 of 1908 by Order dated 30th September 1908, we have the honour to forward herewith four copies of the Specifications of MONTAGUE MOORE, Mining Agent of No. 314 Collins Street, Melbourne in the State of Victoria and Commonwealth of Australia and THOMAS JAMES HESKETT, Engineer of No. 2 Donald Street, Brunswick in the said State, in respect of an Invention for "IMPROVEMENTS IN THE PROCESS OF AND APPARATUS FOR DIRECTLY REDUCING IRON ORE AND SUBSEQUENTLY TREATING SAME FOR THE MANUFACTURE OF WROUGHT IRON AND STEEL".

The prescribed fee of ₹30/- is sent by Post Office Order today and the above mentioned Order is enclosed, and we solicit the favour of your returning such Order after completing same by filling in the date of filing Specifications as 19th February, and signing the Certificate at foot thereof, and entering our Office in Calcutta as the address for service under the Act.

We have the honour to be

Sir,

Your very obedient servants,

REMFRY & SON

per

G.R.S. 20

Diary No. of letter replied to _____

General and Rev. Secretariat
( )
the 190 .

Date of issue 26.2.09

Signed by _____

File No. 99-08

Serial No 13

No. 4924 (Rev.)
Gen

To

Messrs Remfry & Son,
Solicitors and
Patent Agents,
Hastings Street,
Calcutta.

Gentlemen,

With reference
to your letter of 15-2-09
re Specification of an
invention by Montague
Moore & Thomas James
Heskett of Australia,
I am directed to point
out that the address of
the latter as given in
the your letter under reference
is "No. 2, Donald Street,

over.

SUBJECT.

Shirt, Armourick" while
the address given in ~~your~~
the Specification is only
And in your letter of 25-8-1908,
is "'Woodsmere', Middlesex
Road, Surrey Hills". I
Am to enquire which of
the two addresses is the later and
correct. ~~And the latest one~~.

2) The order granting leave
forwarded with your
letter is herewith returned
for reference.

I have &c

S.H.
for Secretary
[illegible]

C.H.
27/4/09

List of enclosures.

Copied by [illegible] 29/4

Examined by

MGCPD—20,000-19-12—04.

N 2614

Egm 99 of 1908-09
8(14.

To

THE SECRETARY TO THE GOVERNMENT OF ~~INDIA,~~
HIS HIGHNESS THE MAHARAJA OF MYSORE,
~~DEPARTMENT OF REVENUE AND AGRICULTURE (PATENTS)~~.
Genl. and Rev. Depts.

From

REMFRY & SON,

D 45 49

Solicitors and Patent Agents,

CALCUTTA.

Dated Calcutta, 23rd April 09.

Sir,

re MOORE & HESKETT. 8/08. (Mysore).

With reference to Official letter No. G4924/G.M. 99-08-13. dated 26th Feby last, we have the honour to return the Original Order and are advised that Mr Heskett's address is now "Woodsmere, Middlesex Road, Surrey Hills"and that his previous address was "No. 2 Donald Street, Brunswick", and solicit the favour of your correcting such address in the Order.

We have the honour to be,

Sir,

Your very obedient servants,

REMFRY & SON.

DCP

G.R.S. 29A]

190

From

Secy. to the Govt. of His Highness the Maharaja of Mysore, Genl. and Rev. Dept.

To

The officer in charge of State Surveys

Dated 30.4.09

Despatched

Received

General No. 6185

No. Fin 99-08-15

Enclosure No. R. 30.

Has the honor to remit a Rd Summ Rs 30 (thirty only) being the fee received from messrs Rempry and Son, Solicitors and patent Agents, Calcutta in respect of the filing of a Specification of an invention for improvements in the process and apparatus for directly reducing iron ore and subsequently treating the same for the manufacture

of Wrought-iron and Steel:
and to request an acknowledgment

2 copies

MYSORE GOVT, GEN. & REV. SECRETARIAT,

No. 6650 / Gen-SS-08-16 Dated Bangalore, 30. 4. 1908.

NOTIFICATION.

(PATENT.)

The following specification of an invention has been filed in accordance with Sections 8, 9, 10 and 11 of Regulation XI of 1894 (The Inventions and Designs Regulations) and is open to inspection at the Mysore Government Secretariat on application to the Secretary to the Government of His Highness the Maharaja of Mysore, General and Revenue Departments, and on payment of a fee of one Rupee.

By Messrs Montagne Moore, mining Agent of No 314 Collins Street Melbourne in the State of Victoria and Commonwealth of Australia and Thomas James Hesketh, Engineer, previously the resident of No 2 Donald Street Brunswick now the resident of Woodsmere, Middleton Road Surrey Hills in the said State.

"

"Improvements in the process of and apparatus for directly reducing iron ore and subsequently treating same for the manufacture of wrought-iron and steel".

By Order,

OK

for Secretary

To

The Compiler, *Mysore Gazette*, for publication.

Copy OK 29/4

No. 96181 Sec 2 / Gen-99-08-17 Mysore Govt. Gen. & Rev. Secretariat,

Dated Bangalore, 20 /4/ 1909.

From

The Secretary to the Government of H. H. the Maharaja of Mysore,
General and Revenue Departments.

To

Messrs Remfry and Son
Solicitors and Patent Agents
Calcutta

Sir,

With reference to your letter dated the 15th Feb 1909 I am directed to forward copy of a Notification No. 96180-94 99-08-16 dated 20-4-09 issued by this Government in regard to the invention filed by you under Regulation XI of 1894 (The Inventions and Designs Regulations.) on behalf of messrs montague Moore, mining Agents No 314 Collins Street, Melbourne in the State of Victoria and Commonwealth of Australia, and Thomas James Heskett, Engineer the resident of Woodsmere, Middleser Road Surrey Hills in the said St

The order granting permission to file specification is herewith returned, with the certificate at foot, duly filled in and signed.

I have the honor to be,
Sir,
Your most obedient servant,

for Secretary.

3 copies 4

G.R.S. 29A]

190

From

Secy. to the Govt. of His Highness
the Maharaja of Mysore,
Genl. and Rev. Dept.

To

X

X Supdt. of Govt. Museum
State Geologist
& Chief Engineer

Dated 30-4-09

Despatched

Received

General No. 6192-4.

No. Rh 99-08-18

Enclosure No. 1

Has the honor to forward herewith for record in his office, a copy of the specification of an invention for "Improvements in the process of and apparatus for directly reducing iron ore and subsequently treating same for the manufacture of wrought iron and steel" filed by messrs Montague Moore, mining Agents of

Copies 2/4

No 314 Collins Street Melbourne
in the State of Victoria and
Commonwealth of Australia
and Thomas James Heskett,
Engineer, the resident of
Woodsmere Middlesex Road,
Surrey Hills in the said State
and to request an acknowledgment

Cm 99/1908-09
8 19

No. 368

STATE HUZUR TREASURY. 1/5/1909 BANGALORE.

4661 Rs. 30/-

Received from The Secretary to the Government of His Highness the Maharaja of Mysore General & Revenue Departments

the sum of Rupees Thirty only being the fee received from

Messrs Remfry & Son, Solicitors, Calcutta for improvements in the process of and apparatus for directly reducing iron ore & candied this day Vide his

Cr Cy 6189 dated 30-4-09

Cm 99-08-15

H. H. MAHARAJA'S STATE HUZUR TREASURY,
BANGALORE, 1-5- 1909
Exd.
Hd. Accott.

By ~~Order~~,
Treasury Officer, State Huzur Treasury.

Noted. Mr Ludwig to Br V & may be sent there

1.5-09

2085

D-4697 43

M. G. D. 13]

MYSORE GEOLOGICAL DEPARTMENT,

DATED BANGALORE, 4th May 1909.

No. 2678

Gen. 99 of 1908-09
820

From

DR. W. F. SMEETH, M.A., D.SC., A.R.S.M., &c.,
State Geologist in Mysore.

To

The Secretary to the Government of
H. H. the Maharaja of Mysore,
Genl. & Rev. Departments.

SIR,

I have the honour to acknowledge the receipt of a copy of the specification in respect of an invention for "Improvements in the process of and apparatus for directly reducing iron ore and subsequently treating same for the manufacture of wrought iron and steel" filed by Messrs. Montague Moore Mining Agent of No. 314 Collins Street, Melbourne in the State of Victoria and Commonwealth of Australia and Thomas James Heskett, Engineer the resident of Woodsmere Middlesex, Surrey Hills, in the State, forwarded with your docket No. G 6192-4/Gen. 99-08-18 dated 30th. April 1909.

I have the honour to be,
Sir,
Your most obedient servant.

E Wedderell
for State Geologist in Mysore.

PB—306—10-10-06

No. 3620

MYSORE P. W. DEPARTMENT.

CENTRAL OFFICE,

Bangalore, 6th May *190*9

From

W. McHUTCHIN, ESQ., M.I.C.E.,

Chief Engineer of Mysore,

Bangalore.

D 4744

Govt 99 L 608-09

81 21

To

K.S,Chandrasekhara Aiyer Esquire,B.A.,B.L.,

Secretary to the Government of

His Highness the Maharaja of Mysore,

General and Revenue Departments.

SIR,

I have the honor to acknowledge the receipt of a copy of specification of an invention for "Improvements in the process of and apparatus for directly reducing iron ore and subsequemtly treating same for the manufacture of wrought iron and steel" filed by Messrs.Montague Moore, Mining Agent of No.314 Collins Street, Melbourne, forwarded with your No. G.6192-4/G.M.99-08-18 of the 30th ultimo.

I have the honor to be,

Sir,

Your most obedient servant,

W. McHutchin

Chief Engineer of Mysore.

GPB—2.5CC—24-9-07

1909

MYSORE P. W. DEPARTMENT.

No. 3620

From

THE CHIEF ENGINEER OF MYSORE,

Bangalore.

To

The secretary to Government,

General & Revenue Departments.

Dated Bangalore, 6th May 1909

Despatched

Enclosure *No.*

SUBJECT.

Acknowledging the receipt of a copy of specification of an invention for "Improvements in the process of and apparatus for directly reducing iron ore and subsequently treating same for the manufacture of wrought iron and Steel" &c.

1909 No. D 4696

G.M. 999 of 1908-09

8 C 22.

From C. A. Krumbiegel Esq.
Supdt., Mysore Govt. Museum.

To K. S. Chandrasekhara Aiyar Esq., B.A. M.
Secretary to the Govt. of H.H. the Maharaja
of Mysore, Govt. and Rev. Depts.

Dated 4th } May '09
Despatched — — — }
Received

General No. 206 } 1908-09
No.

Enclosure No

Sir,

I have the honor to ac
knowledge the receipt of a
Copy of an Invention for —
"Improvements in the Process of an
Apparatus for directly reducing iron
Ore and subsequently treating same
for the manufacture of Wrought Iron
and Steel" by Messrs. Montague Mosh
& Thomas James Hesketh, forwarded
with your No. G. 6192-4 / G.M. 99-08-18 dated the
30th ultimo.

I have the honor to be
Sir
Your most obedt. Servant
C. A. Krumbiegel
Superintendent